

MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE.

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INTRODUCTION.

The MONTHLY WEATHER REVIEW for November, 1898, is based on about 2,762 reports from stations occupied by regular and voluntary observers, classified as follows: 162 from Weather Bureau stations; numerous special river stations; 32 from post surgeons, received through the Surgeon General, United States Army; 2,385 from voluntary observers; 96 received through the Southern Pacific Railway Company; 29 from Life-Saving stations, received through the Superintendent United States Life-Saving Service; 31 from Canadian stations; 10 from Mexican stations; 7 from Jamaica, W. I. International simultaneous observations are received from a few stations and used, together with trustworthy newspaper extracts and special reports.

Special acknowledgment is made of the hearty cooperation of Prof. R. F. Stupart, Director of the Meteorological Service of the Dominion of Canada; Mr. Curtis J. Lyons, Meteorologist to the Hawaiian Government Survey, Honolulu; Dr. Mariano Bárcena, Director of the Central Meteorological and Magnetic Observatory of Mexico; Mr. Maxwell Hall, Government Meteorologist, Kingston, Jamaica; Capt. S. I. Kim-

ball, Superintendent of the United States Life-Saving Service; and Commander J. E. Craig, Hydrographer, United States Navy.

The REVIEW is prepared under the general editorial supervision of Prof. Cleveland Abbe.

Attention is called to the fact that the clocks and self-registers at regular Weather Bureau stations are all set to seventy-fifth meridian or eastern standard time, which is exactly five hours behind Greenwich time; as far as practicable, only this standard of time is used in the text of the REVIEW, since all Weather Bureau observations are required to be taken and recorded by it. The standards used by the public in the United States and Canada and by the voluntary observers are believed to generally conform to the modern international system of standard meridians, one hour apart, beginning with Greenwich. Records of miscellaneous phenomena that are reported occasionally in other standards of time by voluntary observers or newspaper correspondents are sometimes corrected to agree with the eastern standard; otherwise, the local meridian is mentioned.

FORECASTS AND WARNINGS.

By Prof. E. B. GARRIOTT, in charge of Forecast Division.

One of the most disastrous storms of recent years visited the Middle Atlantic and New England States November 26-27, 1898. At least 200 lives were lost, and fully 100 vessels wrecked along the New England coast, and railway traffic was blocked by snow. A description of this storm, together with charts which present the general weather conditions over the eastern half of the United States at 8 a. m., noon, and 3 and 8 p. m. of November 26, and 8 a. m. and 8 p. m. November 27, appears in this issue of the REVIEW. (See charts X, XI, and XII.) The action of the Weather Bureau in warning maritime and other interests of the approach of the storm is also indicated.

The Lake region and middle and north Atlantic coasts were visited by several storms of unusual severity. The first of these crossed from the upper Lakes to the St. Lawrence Valley during the 1st and 2d. From the 4th to the 6th a storm moved from the British Northwest Territory to the St. Lawrence Valley, attended by very strong south to west gales over Lakes Michigan, Erie, and Ontario. The highest velocity of the month at Chicago, 76 miles from the south, on the 7th, attended the passage of a storm center from Lake Superior to the St. Lawrence Valley during the 7th and 8th. On the 9th and 10th a disturbance advanced from Texas to western New York, and thence to Nova Scotia by the morning of the 11th, causing northeast to northwest gales of 50 to 60 miles

an hour over southern Lake Michigan, and correspondingly high velocities from the north and northwest on the lower Lakes and along the New York and south New England coasts. On the 18th a storm appeared over Manitoba and passed thence to the New Jersey coast by the morning of the 19th, and during the 19th and 20th caused wind velocities, mostly from west to northwest, of 50 to 60 miles an hour from Hatteras to New York.

From the 18th to the 23d a storm crossed the continent from the north Pacific coast to Nova Scotia, and on the 21st and 22d caused gales of over 50 miles an hour in the Lake region. The passage of this storm was followed by the principal cold wave of the month, which carried the line of freezing temperature to the middle Gulf and south Atlantic coasts. In no instance did sections visited by these storms fail to receive early and ample warning of their approach.

THE NORTH ATLANTIC COAST STORM OF NOVEMBER 26-27, 1898.

The records of the Weather Bureau show that disturbances of the class to which this storm belongs have caused some of the severest northeast gales and the heaviest falls of snow experienced in New York and New England. A well-remem-